



**International Center  
for Leadership in Education**

# **Instructional Strategies How to Teach for Rigor & Relevance**

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**International Center  
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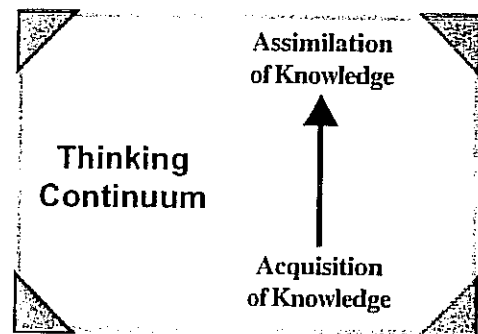
# Rigor/Relevance Framework

The Rigor/Relevance Framework is a tool developed by staff of the International Center to examine curriculum, instruction, and assessment. The Rigor/Relevance Framework is based on two dimensions of higher standards and student achievement.

First, there is a continuum of knowledge that describes the increasingly complex ways in which we think. The Knowledge Taxonomy is based on the six levels of Bloom's Taxonomy:

- (1) awareness
- (2) comprehension
- (3) application
- (4) analysis
- (5) synthesis
- (6) evaluation.

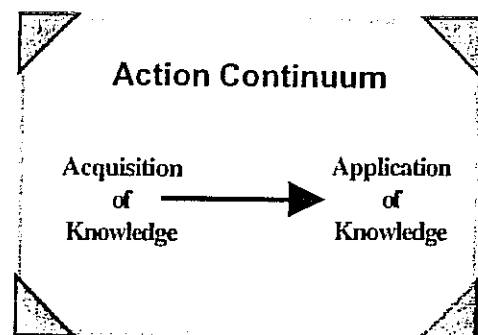
The low end of this continuum involves acquiring knowledge and being able to recall or locate that knowledge in a simple manner. Just as a computer completes a word search in a word processing program, a competent person at this level can scan through thousands of bits of information in the brain to locate that desired knowledge.



The high end of the Knowledge Taxonomy labels more complex ways in which individuals use knowledge. At this level, knowledge is fully integrated into one's mind, and individuals can do much more than locate information. They can take several pieces of knowledge and combine them in both logical and creative ways. Assimilation of knowledge is a good way to describe this high level of the thinking continuum. Assimilation is often referred to as a higher-order thinking skill: at this level, the student can solve multistep problems and create unique work and solutions.

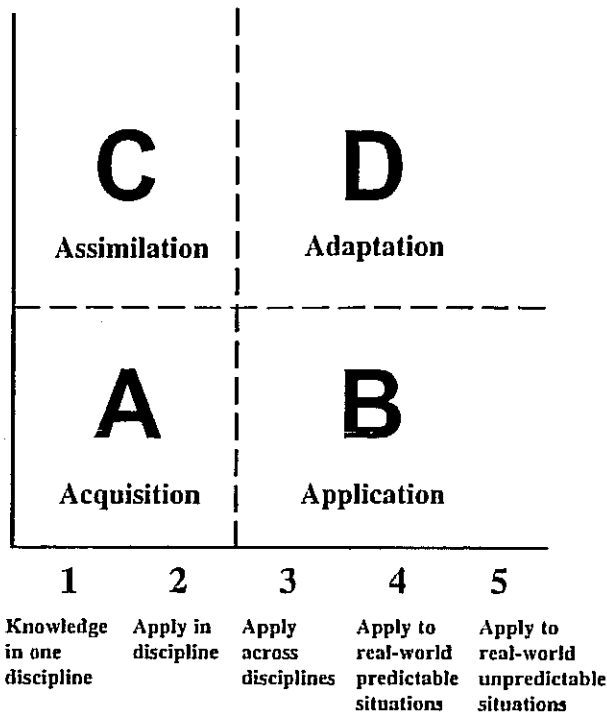
The second continuum, known as the Application Model, is one of action. The five levels of this continuum

- (1) knowledge in one discipline
- (2) apply in discipline
- (3) apply across disciplines
- (4) apply to real-world predictable situations
- (5) apply to real-world unpredictable situations –



describe putting knowledge to use. While the low end is knowledge acquired for its own sake, the high end signifies action — use of that knowledge to solve complex real-world problems and to create projects, designs, and other works for use in real-world situations.

### RIGOR/RELEVANCE FRAMEWORK



## APPLICATION MODEL

The Rigor/Relevance Framework has four quadrants.

Quadrant A represents simple recall and basic understanding of knowledge for its own sake. Quadrant C represents more complex thinking but still knowledge for its own sake. Examples of quadrant A knowledge are knowing that the world is round and that Shakespeare wrote *Hamlet*.

Quadrant C embraces higher levels of knowledge, such as knowing how the U.S. political system works and analyzing the benefits and challenges of the cultural diversity of this nation versus other nations.

Quadrants B and D represent action or high degrees of application. Quadrant B would include knowing how to use math skills to make purchases and count change. The ability to access information in wide-area network systems and the ability to gather knowledge from a variety of sources to solve a complex problem in the workplace are types of quadrant D knowledge.

Each of these four quadrants can also be labeled with a term that characterizes the learning or student performance.

### **Quadrant A — Acquisition**

Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this acquired knowledge.

### **Quadrant B — Application**

Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply appropriate knowledge to new and unpredictable situations.

### **Quadrant C — Assimilation**

Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create unique solutions.

### **Quadrant D — Adaptation**

Students have the competence to think in complex ways and also apply knowledge and skills they have acquired. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

The Rigor/Relevance Framework is a fresh approach to looking at curriculum standards and assessment. It is based on traditional elements of education yet encourages movement to application of knowledge instead of maintaining an exclusive focus on acquisition of knowledge.

The Framework is easy to understand. With its simple, straightforward structure, it can serve as a bridge between school and the community. It offers a common language with which to express the notion of a more rigorous and relevant curriculum and encompasses much of what parents, business leaders, and community members want students to learn. The Framework is versatile; it can be used in the development of instruction and assessment. Likewise, teachers can use it to measure their progress in adding rigor and relevance to instruction and to select appropriate instructional strategies to meet learner needs and higher achievement goals.

*Here is an example involving technical reading and writing.*

#### **Quadrant A**

Recall definitions of various technical terms.

#### **Quadrant B**

Follow written directions to install new software on a computer.

#### **Quadrant C**

Compare and contrast several technical documents to evaluate purpose, audience, and clarity.

#### **Quadrant D**

Write procedures for installing and troubleshooting new software.

## Defining Rigor

A versatile way to define the level of rigor of curriculum objectives, instructional activities, or assessments is the Knowledge Taxonomy Verb List (see page 6). The Verb List can be used either to create a desired level of expected student performance or to evaluate the level of existing curriculum, instruction or assessment.

An example of student performance at various levels follows. Notice each statement starts with a verb that comes from the appropriate section of the Knowledge Taxonomy Verb List. The expected achievement level for teaching about nutrition can vary depending on the purpose of the instruction. If a teacher only wants students to acquire basic nutritional knowledge, a student performance set at level one of two is adequate. If the instruction is intended to have a more significant impact on nutritional habits then some of the objectives need to be similar to levels four through six.

BASIC NUTRITION	
Level	Performance
Level 1 – Knowledge	Label foods by nutritional groups
Level 2 – Comprehension	Explain nutritional value of individual foods
Level 3 – Application	Make use of nutrition guidelines in planning meals
Level 4 – Analysis	Examine success in achieving nutrition goals
Level 5 – Synthesis	Develop personal nutrition goals
Level 6 – Evaluation	Appraise results of personal eating habits over time

Note that each of the levels requires students to think differently. Levels four through six require more complex thinking than levels one through three.

When creating lesson plans and student objectives, selecting the proper word from the Knowledge Taxonomy Verb List can help to describe the appropriate performance. Simply start with a verb from the desired level and finish the statement with a specific description of that skill or knowledge area.

The Verb List can also be used to evaluate existing lesson plans, assessments, and instructional experiences. Looking for verbs and identifying their level will give a good indication of the level of student performance in that instruction.

## Defining Relevance

Defining the level of relevance of curriculum objectives and instructional activities is a little more difficult than determining the Knowledge Taxonomy level because there is no verb list. However, just as the Knowledge Taxonomy categorizes increasing levels of thinking, the Application Model described increasingly complex applications of knowledge. Any student performance can be expressed as one of five levels of the Application Model. The Application Model Decision Tree can assist in setting the desired level of expected student performance in application (see pages 7-8) by asking the questions: Is it application? Is it real world? Is it unpredictable?

The Basic Nutrition example below is similar to the one in the Defining Rigor section in that it uses nutrition to describe student performance at various levels. Each level requires students to apply knowledge differently.

Similarly, the expected achievement level for teaching about nutrition can vary depending on the purpose of the instruction. If a teacher wants students only to acquire basic nutritional knowledge, a student performance set at level one is adequate. If the instruction is intended to have a significant impact on nutritional habits, then some of the objectives need to be at levels four and five.

Use of the Application Model Decision Tree can help to describe desired performance. Start by writing draft statements of student objectives and then use the Decision Tree to reflect on and revise these statements. The Decision Tree focuses on the three key characteristics that distinguish levels of the Application Model: application, real world, and unpredictability. The second page of the Decision Tree offers additional criteria to determine whether an objective meets the test of application, real world, and unpredictability.

The Application Model Decision Tree can also be used to evaluate existing lesson plans, assessments, and instructional experiences. Answer the questions to identify at which level of student performance that instruction or assessment is.

Level	BASIC NUTRITION	Performance
Level 1 – Knowledge in One Discipline		Label foods by nutritional groups
Level 2 – Application in One Discipline		Rank foods by nutritional value
Level 3 – Interdisciplinary Application		Make cost comparisons of different foods considering nutritional value
Level 4 – Real-world Predictable Situations		Develop a nutritional plan for a person with a health problem affected by food intake
Level 5 – Real-world Unpredictable Situations		Devise a sound nutritional plan for a group of 3-year-olds who are picky eaters

**Worksheet**

## What Works Best?

Certain instructional strategies work better than others depending on the quadrant of the Rigor/Relevance Framework in which the learning objective falls. List two or three instructional strategies that you think would be effective in each of the four quadrants.

### Rigor/Relevance Framework

K N O W L E D G E	T A X O N O M Y	Evaluation	6	<b>C</b> Assimilation	<b>D</b> Adaptation	
		Synthesis	5			
		Analysis	4			
		Application	3	<b>A</b> Acquisition	<b>B</b> Application	
		Understanding	2			
		Awareness	1			
		1	2	3	4	5
		Knowledge	Apply in discipline	Apply across disciplines	Apply to real-world predictable situations	Apply to real-world unpredictable situations

### APPLICATION MODEL

## DEFINITIONS OF INSTRUCTIONAL STRATEGIES

**Brainstorming** stimulates thinking and allows students to generate vast amounts of information and then sort that information in an engaging learning process.

**Community service** involves learning opportunities in which students do unpaid work that adds value to the community.

**Compare and contrast** learning activities require analysis to identify similarities and differences.

**Cooperative learning** places students in structured groups to solve problems by working cooperatively.

**Creative arts** are artistic products or performances that can also be used to develop skills in other curriculum areas.

**Demonstration** involves direct observation of physical tasks, such as the manipulation of materials and objects.

**Games** are exciting, structured activities that engage students in individual or group competition to demonstrate knowledge or complete an academic task.

**Group discussion** is any type of verbal dialogue among students used to explore ideas related to an instructional topic.

**Guided practice** refers to homework, worksheets, and computer practice wherein students solve routine problems to reinforce concepts or skills.

**Inquiry** engages students in posing questions around an intriguing investigation, making observations, and discussing them.

**Instructional technology** means a multimedia computer application that provides a choice of learning paths and enables tailoring of programs to student questions or interests.

**Internship** is a formal placement in an employment situation for additional learning while the student is still in school.

**Lecture** is a verbal presentation of knowledge by the teacher to the students, often supplemented by visuals and handouts.

**Literature** is reading to discover use of language; acquire information about people, history, cultures, and society; and develop skills of analysis, inquiry, logic, and recall.

**Memorization** is rehearsal for the recall of facts using techniques for remembering information, including mnemonic devices.

**Note-taking/graphic organizers** involves organizing logical notes for reference and using graphics, diagrams, and symbols to represent information.

**Presentations/exhibitions** are oral presentations by students requiring them to organize ideas and express them in their own words.

**Problem-based learning** introduces concepts through use of problem-solving skills on a real problem or investigation.



**DEFINITIONS OF INSTRUCTIONAL STRATEGIES, continued**

**Project design** requires students to integrate their skills and knowledge to create their own literary, technological, or artistic work, as individuals or in a group.

**Recognition and rewards** are motivational techniques used by teachers to provide positive feedback to students on their successful efforts and achievement.

**Research** means students locate and retrieve information from several sources, such as library references, textbooks, other individuals, and electronic databases via the Internet.

**Review and re-teaching** refers to teachers' planned efforts to review previously learned content and assist students who may not have fully acquired the knowledge.

**Setting objectives and advance organizers** are initiating techniques teachers use to engage students in learning, including emphasizing what will be learned and presenting engaging questions or activities.

**Simulation/role playing** replicates the way skills or knowledge are used outside school, ranging from role playing to computer-generated virtual reality.

**Socratic seminar** combines the elements of teacher questions, inquiry, and discussion around key topics, with the teacher asking probing questions as needed.

**Teacher questions** stimulate significant student thinking in response to thoughtful queries about connections with new information.

**Total physical response** requires students to engage in a physical activity as well as mental processes.

**Video** provides new information to students through visual presentation ranging from full-length commercial movies to short information or news segments.

**Work-based learning** presents opportunities for students to learn through on-the-job experiences ranging from job shadowing to full employment.

**Writing** makes students organize their knowledge and reinforces concepts in any form from a one-paragraph test-question response to a multi-page research report.

## Instructional Strategies and Rigor/Relevance Framework

Strategy	Acquisition Quadrant A	Application Quadrant B	Assimilation Quadrant C	Adaptation Quadrant D
Brainstorming	★★	★	★★★★	★★★★
Community Service	★	★★★★	★★	★★★★
Compare and Contrast	★★	★	★★★★	★★
Cooperative Learning	★★	★★★★	★★	★★★★
Creative Arts	★	★★	★★★★	★★★★
Demonstration	★	★★★★	★	★★
Games	★★★★	★★	★	★
Group Discussion	★★	★★	★★	★★
Guided Practice	★★★★	★★	★★	★
Inquiry	★	★★	★★★★	★★★★
Instructional Technology	★★	★★★★	★★★★	★★★★
Internship	★	★★★★	★★	★★★★
Lecture	★★★★	★	★★	★
Literature	★★	★★	★★★★	★★★★
Memorization	★★★★	★★	★★	★

KEY    ★★★ Ideal Strategy    ★★ Appropriate Strategy    ★ Least Appropriate Strategy

## Instructional Strategies and Rigor/Relevance Framework, continued

Strategy	Acquisition Quadrant A	Application Quadrant B	Assimilation Quadrant C	Adaptation Quadrant D
Note Taking/Graphic Organizers	★★	★★	★★	★★
Presentations/ Exhibitions	★	★★	★★	★★★★
Problem-based Learning	★★	★★★★	★★	★★★★
Project Design	★	★★★★	★	★★★★
Recognition and Rewards	★★★★	★★	★★	★★
Research	★★	★	★★★★	★★★★
Review and Re-teaching	★★★★	★★★★	★	★
Setting Objectives and Advance Organizers	★★	★★	★★	★★
Simulation/Role Playing	★★	★★★★	★★	★★★★
Socratic Seminar	★	★	★★★★	★★★★
Teacher Questions	★★	★	★★★★	★★★★
Total Physical Response	★★★★	★★★★	★	★
Video	★★	★★★★	★★	★★
Work-based Learning	★★	★★★★	★★	★★★★
Writing	★★	★★	★★★★	★★★★

KEY    ★★★ Ideal Strategy    ★★ Appropriate Strategy    ★ Least Appropriate Strategy

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## Learning Styles

Strategy	Concrete-Sequential	Abstract-Sequential	Concrete-Random	Abstract-Random
Brainstorming	★	★★★	★★★	★★★★
Cooperative Learning	★	★★★★	★★★	★★★
Demonstration	★★★★	★★★	★★★	★
Guided Practice	★★★	★★★	★★★	★
Inquiry	★	★★★	★★★	★★★★
Instructional Technology	★★★	★★★	★★★★	★★★
Lecture	★★★★	★★★	★	★
Memorization	★★★★	★	★★★	★
Note-taking/Graphic Organizers	★★★	★★★	★★★	★★★
Presentations/Exhibitions	★★★	★★★	★★★	★★★★
Problem-based Learning	★	★★★★	★★★★	★★★
Project Design	★★★	★	★★★★	★
Research	★★★	★★★★	★★★	★
Simulation/Role Playing	★	★	★★★	★★★★
Socratic Seminar	★	★★★★	★	★★★
Teacher Questions	★★★★	★★★	★★★	★
Work-based Learning	★★★	★	★★★★	★★★

Key ★★★ Ideal Strategy    ★★ Appropriate Strategy    ★ Least Appropriate Strategy

## Strategies and Assessment

Strategy	Multiple Choice	Constructed Response	Extended Response	Process Performance	Product Performance	Portfolio	Interview	Self Reflection
Brainstorming	★	★	★	★★★★	★★	★★	★★	★★★★
Cooperative Learning	★	★	★★	★★★★	★★★★	★★	★★	★★
Demonstration	★★	★★★★	★★	★★★★	★★	★★	★	★
Guided Practice	★★★★	★★★★	★★	★★★★	★★	★★	★	★
Inquiry	★	★	★★	★★	★★★★	★★	★★★★	★★★★
Instructional Technology	★★	★	★	★★	★★★★	★★★★	★★	★★
Lecture	★★★★	★★★★	★★★★	★	★	★	★★	★
Memorization	★★★★	★★★★	★★	★★★★	★★	★	★	★
Note-taking and Graphic Organizers	★	★★	★★★★	★	★★	★★	★★	★★★★
Presentations/ Exhibitions	★	★	★★	★★★★	★★★★	★★★★	★★	★★★★
Problem-based Learning	★	★★	★★★★	★★★★	★★★★	★★	★★	★★
Project Design	★	★★	★★★★	★★★★	★★★★	★★★★	★★	★★
Research	★	★	★★	★★★★	★★★★	★★★★	★★	★★★★
Simulation/Role Playing	★	★	★★	★★★★	★	★	★★	★★★★
Socratic Seminar	★	★	★★★★	★★	★	★	★★★★	★★★★
Teacher Questions	★★	★★★★	★★	★	★	★	★★	★★
Work-based Learning	★	★	★★	★★★★	★★★★	★★★★	★★★★	★★

Key ★★★ Ideal Strategy    ★★ Appropriate Strategy    ★ Least Appropriate Strategy

## Use of Education Technology

Strategy	Application of Technology
Brainstorming	<ul style="list-style-type: none"> <li>Students can use computers to record and display brainstormed ideas</li> <li>Word processing software is excellent for editing, sorting and organizing brainstormed lists.</li> </ul>
Cooperative Learning	<ul style="list-style-type: none"> <li>Distribute discussion topics to students via computer.</li> <li>Students can research topics via the Internet and software resources.</li> <li>Students can record reflections on computer.</li> <li>Students can illustrate group findings with computer graphic displays</li> </ul>
Demonstration	<ul style="list-style-type: none"> <li>Use computer demonstration software packages to show complex tasks that are too expensive or dangerous to do live.</li> <li>Students can review previous demonstrations from computer files or the Internet.</li> </ul>
Guided Practice	<ul style="list-style-type: none"> <li>Students can use drill and practice software to reinforce fundamental skills.</li> <li>Provide enhancing activities for students who learn at a faster pace.</li> </ul>
Inquiry	<ul style="list-style-type: none"> <li>Pose initial questions and intriguing investigations on computer.</li> <li>Students can collaborate with other students and experts offsite via the Internet.</li> <li>Students can record reflections on computer.</li> </ul>
Instructional Technology	<ul style="list-style-type: none"> <li>Technology must be used to give students direct experience learning with multi-media.</li> </ul>
Lecture	<ul style="list-style-type: none"> <li>Use computer visuals to illustrate lectures.</li> </ul>
Memorization	<ul style="list-style-type: none"> <li>Students can practice mnemonics on computer.</li> </ul>
Note-taking/ Graphic Organizers	<ul style="list-style-type: none"> <li>Students can use word processing software for taking notes.</li> <li>Make reference notes available for students on the internet.</li> <li>Graphic organizing software is excellent for creating graphical displays of information.</li> <li>Distribute note-taking templates to students via networks.</li> </ul>

**Use of Education Technology, continued**

Strategy	Application of Technology
Presentations / Exhibitions	<ul style="list-style-type: none"> <li>Students can use multimedia software to create presentations.</li> <li>Students can use the Internet and reference software for researching topics.</li> </ul>
Problem-based Learning	<ul style="list-style-type: none"> <li>Pose problems on computers.</li> <li>Students can use computer networks to research problems.</li> <li>Students can use computer software for reference of decisions and expert systems.</li> <li>Students can create and display solutions with visual software.</li> </ul>
Project Design	<ul style="list-style-type: none"> <li>Students can create project designs and model solutions on computers.</li> <li>Students can use calculators and computers for calculating design data.</li> <li>Students can use robots to conduct design tests.</li> <li>Students can use the Internet to collect information on design needs.</li> </ul>
Research	<ul style="list-style-type: none"> <li>Students can use the Internet and reference software to research topics.</li> </ul>
Simulation / Role Playing	<ul style="list-style-type: none"> <li>Students can use computer simulations.</li> <li>Students can use education learning games for individual instruction.</li> </ul>
Socratic Seminar	<ul style="list-style-type: none"> <li>Students can engage in discussion with students at remote locations through the internet.</li> <li>Students can use the Internet to research questions posed.</li> </ul>
Teacher Questions	<ul style="list-style-type: none"> <li>Use software for brainstorming and keeping track of effective classroom questions.</li> </ul>
Work-based Learning	<ul style="list-style-type: none"> <li>Students can use computer software as it is used in the workplace.</li> </ul>

### Changing Roles

Strategy	Role of the Teacher	Role of the Student
<b>Brainstorming</b>	Cheerleader <ul style="list-style-type: none"> <li>• Encourages participation</li> <li>• Is creative, has fun</li> </ul>	Idea Generator <ul style="list-style-type: none"> <li>• Thinks creatively</li> <li>• Makes new connections</li> </ul>
<b>Cooperative Learning</b>	Parent <ul style="list-style-type: none"> <li>• Prepares students in advance</li> <li>• Give students responsibility</li> <li>• Provides for equal participation</li> </ul>	Peer Participant <ul style="list-style-type: none"> <li>• Collaborates in learning process</li> <li>• Gives supportive feedback</li> </ul>
<b>Demonstration</b>	Salesperson <ul style="list-style-type: none"> <li>• Gives organized presentations</li> <li>• Has students replicate</li> </ul>	Interested Observer <ul style="list-style-type: none"> <li>• Watches carefully</li> <li>• Asks questions</li> <li>• Rehearses in his/her mind</li> </ul>
<b>Guided Practice</b>	Coach <ul style="list-style-type: none"> <li>• Sets practice rules</li> <li>• Ties learning goals to practice</li> </ul>	Athlete at Practice <ul style="list-style-type: none"> <li>• Remembers basic techniques</li> <li>• Repeats, repeats, repeats</li> <li>• Focuses on achievement</li> </ul>
<b>Inquiry</b>	Mystery Writer <ul style="list-style-type: none"> <li>• Leads to "discovery"</li> <li>• Provides clues</li> <li>• Foreshadows events</li> </ul>	Scientist <ul style="list-style-type: none"> <li>• Asks questions</li> <li>• Makes observations</li> <li>• Tests hypotheses</li> </ul>
<b>Instructional Technology</b>	Pilot <ul style="list-style-type: none"> <li>• Integrates technology</li> <li>• Is knowledgeable about systems</li> <li>• Monitors learning systems</li> </ul>	Explorer <ul style="list-style-type: none"> <li>• Follows new paths to learning</li> <li>• Uses technology</li> <li>• Shares with others</li> </ul>
<b>Lecture</b>	Expert <ul style="list-style-type: none"> <li>• Directs thinking</li> <li>• Shares knowledge</li> <li>• Evaluates students</li> </ul>	Listener <ul style="list-style-type: none"> <li>• Pays attention</li> <li>• Relates to previous knowledge</li> <li>• Organizes knowledge</li> </ul>
<b>Memorization</b>	Magician <ul style="list-style-type: none"> <li>• Teaches "tricks of the trade"</li> <li>• Creates new tricks</li> </ul>	Sorcerer's Apprentice <ul style="list-style-type: none"> <li>• Copies traditional techniques</li> <li>• Experiments with new tricks</li> </ul>
<b>Note-taking/ Graphic Organizers</b>	Master Mechanic <ul style="list-style-type: none"> <li>• Knows right tool for the job</li> <li>• Provides important information</li> <li>• Teaches how to use the tools</li> </ul>	Artisan <ul style="list-style-type: none"> <li>• Captures ideas</li> <li>• Uses fundamental tools</li> <li>• Expresses personal creativity</li> </ul>



### Changing Roles, continued

Strategy	Role of the Teacher	Role of the Student
<b>Presentations/ Exhibitions</b>	Olympic Judge <ul style="list-style-type: none"> <li>Establishes ideal performance</li> <li>Evaluates students</li> </ul>	Speaker <ul style="list-style-type: none"> <li>Shows well researched preparation</li> <li>Has good platform skills</li> <li>Informs the audience</li> </ul>
<b>Problem-based Learning</b>	Coach <ul style="list-style-type: none"> <li>Presents problem situation</li> <li>Encourages skill development</li> <li>Supports students in the process</li> </ul>	Detective <ul style="list-style-type: none"> <li>Analyzes the situation</li> <li>Makes detailed observations</li> <li>Seeks solutions</li> </ul>
<b>Project Design</b>	Consultant <ul style="list-style-type: none"> <li>Provides background on project</li> <li>Sets design specifications</li> <li>Advises on process</li> </ul>	Engineer <ul style="list-style-type: none"> <li>Examines the design specifications</li> <li>Designs solutions</li> <li>Tests solutions</li> </ul>
<b>Research</b>	Resource Person <ul style="list-style-type: none"> <li>Teaches problem-solving</li> <li>Poses problems</li> <li>Translates into students' world</li> </ul>	Scientist <ul style="list-style-type: none"> <li>Poses problems</li> <li>Collects evidence</li> <li>Organizes information</li> </ul>
<b>Simulation/ Role-playing</b>	Stager <ul style="list-style-type: none"> <li>Manages the situation</li> <li>Sets simulation/game in motion</li> <li>Watches from the wings</li> </ul>	Player <ul style="list-style-type: none"> <li>Focuses on the goal</li> <li>Plays role with enthusiasm</li> <li>Strives to improve</li> </ul>
<b>Socratic Seminar</b>	Travel Agent <ul style="list-style-type: none"> <li>Enables learning from group</li> <li>Guides group's journey</li> </ul>	Journalist <ul style="list-style-type: none"> <li>Gathers and analyzes information</li> <li>Organizes thoughts and ideas</li> <li>Expresses ideas clearly</li> </ul>
<b>Teacher Questions</b>	Conductor <ul style="list-style-type: none"> <li>Orchestrates learning</li> <li>Guides performance</li> </ul>	Expert <ul style="list-style-type: none"> <li>Responds to questions</li> <li>Seeks new information</li> </ul>
<b>Work-based Learning</b>	Navigator <ul style="list-style-type: none"> <li>Guides students</li> <li>Shows students "destination"</li> <li>Connects school and work</li> </ul>	Apprentice <ul style="list-style-type: none"> <li>Models the master worker</li> <li>Develops habits of the jobs</li> <li>Seeks to improve constantly</li> </ul>

# **STRATEGIES THAT WORK**

**-Robert Marzano, 2001-**

- **Identifying Similarities and Differences**
- **Summarizing and Note Taking**
- **Reinforcing Effort and Providing Recognition**
- **Homework and Practice**
- **Nonlinguistic Representations**
- **Cooperative Learning**
- **Setting Objectives and Providing Feedback**
- **Generating and Testing Hypotheses**
- **Cues, Questions, and Advance Organizers**

# Instructional Strategies: How to Teach for Rigor and Relevance

## Contents

### I. Overview

- A. Why This Kit
- B. Teaching is Only as Good as the Learning that Takes Place
- C. Research Confirms the Need for Effective Instructional Strategies
- D. Successful Approaches To Teaching
- E. Moving Education Toward Learning
  - a. Rigor/Relevance Framework
  - b. Four Quadrants

### II. Instructional Strategies

- A. Planning Instruction
  - 1. Performance Planning
  - 2. Curriculum Planning Steps
  - 3. Student Needs
  - 4. Student-Centered Learning
  - 5. Interdisciplinary Instruction
  - 6. Designing Interdisciplinary Instruction
  - 7. Applying Brain Research
- B. Keys to Effective Learning
  - 1. Curriculum Standards
  - 2. Curriculum Survey of Essential Skills
  - 3. Teacher Behaviors
  - 4. Providing Student Feedback

### III. Strategies

- 1. Definitions
  - 17 Strategies
  - Additional Strategies
- 2. Changing Role
- 3. Selecting Strategies
  - a. Rigor Relevant Table
  - b. Learning Styles
  - c. Strategies and Assessment
  - d. Use of Educational Resources Technology
- Strategies(For Each of 17 Strategies)
  - a. Description - What is it all about, characteristics, benefits, appropriate uses for groups of students
  - b. Sample Lesson Plan - Example using strategy
  - c. Resources - For more in depth study

- d. Tips and Ideas - Stimulating ideas on how this strategy can be used
- e. Checklist - Useful reminders on how to prepare and how to steps and how to judge effectiveness

### IV. Professional Development Resources

- A. Workshops
- B. Teacher Learning Activities
- C. Handouts
- D. Visuals

### V. Making a Difference with Professional Development

- A. Effective Professional Development
- B. Focus of Professional Development
- C. Teacher Priorities
- D. Characteristics of Effective Professional Development
- E. Alignment with School Improvement
- F. Models of Professional Development
- G. Problem-based Learning
- H. Keys to Success
- I. Evaluation
- J. Resources

### VI. Techniques for Improving Instruction

- A. Collaborative Peer Review Processes
  - 1. Collaborative School Review
  - 2. Conducting a Learning Experience Reflections
  - 3. Conducting s Peer Teaching Observations
  - 4. Resources
- B. Action Research

### VI. Additional Resources

- A. International Center Materials and Services
  - a. Model School Conference
  - b. Staff Development
  - c. Tapes and Publications
- B. Bibliography